## REMARKS/ARGUMENTS

The present Amendment is responsive to the final Office Action mailed September 2, 2010 in the above-identified patent application.

New claim 117 is added. Therefore, claims 1, 3, 5, 7-15 and 117 are the claims currently presented for examination in the present application.

Claims 1, 3, 8 and 12 are amended to clarify features recited thereby. These amendments are fully supported by Applicant's disclosure see, for example, Specification, page 50, lines 16-26, page 41, line 19 - page 42, line 1; and Figs. 4 and 15 of the Drawings.

### *Rejection of Claims 1, 3, 5 and 7-15 under 35 U.S.C. § 112, First Paragraph*

Claims 1, 3, 5 and 7-15 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement on the ground that the recitation "less than 2 m/sec" is not fully supported because the Specification supports only a velocity of 2 m/sec or less.

Claims 1, 3, 8 and 12 are amended. Claim 5 was rejected only because of its dependency from claim 3.

### *Rejection of Claims 1, 3, 5 and 7 under 35 U.S.C. § 103*

Claims 1, 3, 5 and 7 are rejected under 35 U.S.C. § 103 as being obvious from Horio et al., JP 2003-037302 in view of Horio et al., JP 2000-286471. Reconsideration of this rejection is respectfully requested.

The following discussion of an embodiment of Applicant's invention as claimed in claims 1 and 3 is provided to highlight aspects of Applicant's invention for purposes of illustration but in no way limits the scope of the claims. As discussed, for example, at page 41, line 19 - page 42, line 1 and page 50, line 16-26 of the Specification and also illustrated in Figs. 4 and 15 of the Drawings, an advantage or effect according to an aspect of Applicant's invention as claimed in claims 1 and 3 is that a thickness of the plate shaped raw thermoelectric semiconductor material 10 is at least 70μm so that a specific surface area of the thermoelectric semiconductor material can be reduced. As a result, oxidization caused by oxygen concentration in the thermoelectric semiconductor material manufactured from the raw thermoelectric semiconductor material 10 can be reduced or mitigated, and thus a decrease in the electric conductivity can be prevented or controlled. For example, as illustrated in Fig. 15 of the

Drawings, it has been found that at a thickness of the raw material of 70μm or higher the oxygen concentration is not further significantly diminished as a function of the thickness of the material.

Claims 1 and 3 require that the raw alloy in molten form is contacted with a surface of a cooling member so as to form the plate shaped raw thermoelectric semiconductor materials having a thickness of at least 70μm.

Horio '302 and Horio '471 disclose methods of manufacturing a thermoelectric material. Horio '302 discloses a heat treatment of the body solidified by the quenching, such that during heat treatment Te atoms and Se atoms are segregated onto the surface by boundary diffusion (Horio '302, Abstract).

Horio '471 discloses a quenched foil powder containing crystals having a high uniform orientation produced by producing the foil by a liquid quenching method by injecting a molten raw material from the molten-liquid injection nozzle upon a cooling roll (Horio '471, Abstract). Even taken together in combination, Horio '302 and Horio "471 do not disclose or suggest that the raw alloy in molten form is contacted with a surface of a cooling member so as to form the plate shaped raw thermoelectric semiconductor materials having a thickness of at least 70μm, as required by claims 1 and 3. Moreover, Horio '302 and Horio '471 are silent as to the above-discussed effects or advantages provided by claims 1 and 3. Accordingly, the recitations of claims 1 and 3 would not have been obvious based on Horio '302 and Horio '471.

Claims 5 and 7 depend from claim 3, and are therefore patentably distinguishable over the cited art for at least the same reasons.

***Rejection of Claims 8-15 under 35 U.S.C. § 103***

Claims 8-15 are rejected under 35 U.S.C. § 103 as being obvious from Fukuda et al., U.S. Patent No. 6,274,802 in view of Horio '302 and Horio'471. Reconsideration of this rejection is respectfully requested.

Claims 8 and 12 require that the raw alloy in molten form is contacted with a surface of a cooling member so as to form the plate shaped raw thermoelectric semiconductor materials having a thickness of at least 70μm.

Fukuda does not cure the above-discussed deficiencies of Horio '302 and Horio '471 as they relate to the above-referenced features. Further, the Office Action does not allege that Fukuda discloses or suggests such features. Accordingly, even taken together in combination, Fukuda, Horio '302 and Horio '471 do not disclose or suggest the recitations of claims 8 and 12. Moreover, the cited art does not disclose or suggest the above-discussed advantages or effects

according to an aspect of Applicant's invention as claimed in claims 8 and 12 and thus the recitations of claims 8 and 12 would not have been obvious based on the cited art.

Claims 9-11 depend from claim 8 and claims 13-15 depend from claim 12. Therefore, claims 9-11 and 13-15 are patentably distinguishable over the cited art for at least the same reasons as their respective base claim.

***New Claim***

New claim 117 is added so as more fully to claim patentable aspects of Applicant's invention. New claim 117 is fully supported by Applicant's disclosure see, for example, page 41, line 19-page 42, line 22 of the Specification and Figure 15 of the Drawings illustrating the curve-shaped function correlating oxygen concentration with the thickness of the plate-shaped raw thermoelectric semiconductor materials and showing a raw material thickness that is thicker than a thickness at which the oxygen concentration drops significantly as a function of thickness.

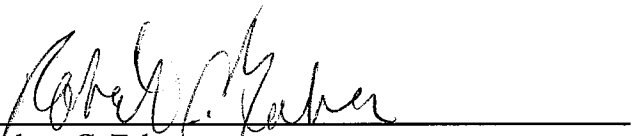
Claim 117 requires a thermoelectric semiconductor material having a first thickness greater than a second thickness, the second thickness being a greatest thickness at which the plate-shaped raw thermoelectric semiconductor materials have a first oxygen concentration quantity, the first oxygen quantity corresponding to a curve-shaped function correlating oxygen concentration with thickness of the plate shaped raw thermoelectric semiconductor materials.

The cited art does not disclose or suggest such features. Accordingly, the cited art does not disclose or suggest the recitations of claim 117.

In view of the foregoing discussion, withdrawal of the rejections and allowance of the claims of the application are respectfully requested.

THIS CORRESPONDENCE IS BEING SUBMITTED ELECTRONICALLY THROUGH THE PATENT AND TRADEMARK OFFICE EFS FILING SYSTEM ON January 31, 2011.

Respectfully submitted,



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